



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,958	09/29/2003	Vincent K. Jones IV	CISCO-8280	3801
21921 7590 08/21/2007 DOV ROSENFELD 5507 COLLEGE AVE SUITE 2 OAKLAND, CA 94618			EXAMINER BOAKYE, ALEXANDER O	
			ART UNIT	PAPER NUMBER
			2616	
			MAIL DATE	DELIVERY MODE
			08/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

sk

Office Action Summary	Application No. 10/673,958	Applicant(s) JONES ET AL.	
	Examiner ALEXANDER BOAKYE	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-18 is/are allowed.
- 6) ☒ Claim(s) 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by Rhee et al.
(US Patent # 6,421,400).

Regarding claim 19, Rhee teaches a soft-decision decoder (Fig. 2, block 110) in which soft decision value is obtained for the later stage decoding of information bits of a multibit phase shift key symbol (see col. 3, lines 22-33). The decoder (110) uses a squared Euclidean distance metric calculation for making the soft decision for the decoding process (col. 3, lines 33-34). This calculation uses equation (1) that includes all steps that are required by the claim, especially taking the angular differences between an angular estimate (O) and an ideal angular value (O_i)(see Fig. 7 and col. 5, lines 1-20), comprising the steps of: receiving one or more signals (Quantized signal) in wireless receiver (Fig. 2) as a result of a transmission of a signal in which the multibit phase shift key symbol is encoded (column 1, line 65-column 2, lines 1-11); forming a received estimate of said multibit phase shift key symbol (receiving a signal point that

Art Unit: 2616

includes a radial component R and an angular component O) from the received one or more signals (Quantized signal of Fig. 2); and forming a soft decision value for said particular bit based on angular differences between said received estimate (q) and ideal values (O_i) for said multibit phase shift key symbol (using $\cos(O - O_i)$), where (O_i) is an ideal value for a PSK constellation signal point.

Allowable Subject Matter

2. *Claims 16-18 are allowable.*

The following is a statement of reasons for the indication of allowable subject matter: As to claims 16-18, the prior art of record does not teach obtaining a first angular difference between polar coordinates of the received estimate and polar coordinates of a nearest in angle ideal symbol having zero as a value for the particular bit; obtaining a second angular difference between polar coordinates of the received estimate and polar coordinates of a nearest in angle ideal symbol having one as a value for the particular bit.

Response to Arguments

3. Applicant's arguments with respect to claims 16-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (571) 272-3183. The examiner can normally be reached on M-F from 8:30am to 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (571) 272-3179. The Fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Electronic Business Center (EBC)** numbers at 866-217-9197 and 703-305-3028.

Alexander Boakye

Patent Examiner

AB

8/18/07



WELLINGTON CHIN
SENIOR PATENT EXAMINER